What is claimed is:

1. A method for requesting and sending data in a DSL network, the method comprising:

(a) Generating a request to send and receive data; and

(b) Embedding the request within a superframe.

2. The invention of claim 1 wherein the request comprises RTS/CTS signals.

3. A method for oversubscribing a DSL modem, the method comprising:

(a) connecting M DSL modems to a first set of M Customer Premise Equipment devices;

(b) connecting P OAM/EOC modems to a first set of P Customer Premise Equipment devices;

(c) transferring user traffic data between the M DSL modems and the first set of M Customer Premise Equipment devices; and

(d) transferring synchronization data between the P OAM/EOC modems and the first set of P Customer Premise Equipment devices.

4. The invention of claim 3 further comprising:

(e) connecting the M DSL modems to a second set of M Customer Premise Equipment devices, wherein at least some of the second set of M Customer Premise Equipment devices are members of the first set of P Customer Premise Equipment devices;

(f) connecting the P OAM/EOC modems to a second set of P Customer Premise Equipment devices wherein at least some of the second set of P Customer Premise Equipment devices are members of the first set of M Customer Premise Equipment devices;

(g) transferring user traffic data between the M DSL modems and the second set of M Customer Premise Equipment devices; and

(h) transferring synchronization data between the P OAM/EOC modems and the second set of P Customer Premise Equipment devices.

5. The invention of claim 4 further comprising determining the first and second sets of M and P Customer Premise Equipment devices at least in part via RTS/CTS signals.

6. The invention of claim 5 further comprising embedding the RTS/CTS signals within superframes.

7. The invention of claim 3 wherein the bandwidth requirements of the synchronization data is less than about 1 percent of that of the user traffic data.

8. The invention of claim 3 further comprising, for each M DSL modem connected to each M Customer Premise Equipment device, stopping the transfer of user traffic data when at least one of the following condition are met: Time-Out, or No-More-Data.

9. A system for oversubscribing a DSL modem, the system connected between at least one upstream data link and a plurality of N downstream data links, each downstream data link coupled to respective Customer Premise Equipment devices, the system comprising:

M DSL modems connected to the at least one upstream data link;

P OAM/EOC modems in communication with said M DSL modems; and

a switch connected to the N downstream data links, said M DSL modems, and said P OAM/EOC modems.

10. The invention of claim 9 further comprising means for communicating RTS/CTS signals between the respective Customer Premise Equipment devices and said M DSL modem and said P OAM/EOC modems.

11. A system for oversubscribing a DSL modem, the system connected between at least one upstream data links and a plurality of N downstream data links, the system comprising:

an M:N analog multiplexer connected to the N downstream data links;

a P:N analog multiplexer connected to the N downstream data links;

a DSL DSP path comprising:

M DSL DSPs connected to the at least one upstream data link;

M High Frequency Digitizers in communication with said M DSL DSPs;

M 2to4 Hybrids with Line Drivers in communication with said M High Frequency Digitizers; and

M Isolation Circuitry in communication with said M 2to4 Hybrids with Line Drivers and with said M:N analog multiplexer;

an OAM/EOC DSP path comprising:

P OAM/EOC DSPs;

P Low Frequency Digitizers in communication with said P OAM/EOC DSPs;

P 2to4 Hybrids with Line Drivers in communication with said P Low Frequency Digitizers; and

P Isolation Circuitry in communication with said P 2to4 Hybrids with Line Drivers and with said P:N analog multiplexer.

12. A system for oversubscribing a DSL modem, the system connected between at least one upstream data links and a plurality of N downstream data links, the system comprising:

an M:N analog multiplexer;

a P:N analog multiplexer;

N Isolation Circuitry connected to the N downstream data links and in communication with said M:N analog multiplexer and said P:N analog multiplexer;

a DSL DSP path comprising:

M DSL DSPs connected to the at least one upstream data link;

M High Frequency Digitizers in communication with said M DSL DSPs; and

M 2to4 Hybrids with Line Drivers in communication with said M High Frequency Digitizers and with said M:N analog multiplexer.

an OAM/EOC DSP path comprising:

P OAM/EOC DSPs;

P Low Frequency Digitizers in communication with said P OAM/EOC DSPs; and

P 2to4 Hybrids with Line Drivers in communication with said P Low Frequency Digitizers and with said P:N analog multiplexers.

13. A system for oversubscribing a DSL modem, the system connected between at least one upstream data links and a plurality of N downstream data links, the system comprising:

an M:N analog multiplexer;

a P:N analog multiplexer;

N 2to4 Hybrids with Line Drivers in communication with said M:N analog multiplexer and said P:N analog multiplexer;

N Isolation Circuitry connected to the N downstream data links and in communication with said N 2to4 Hybrids with Line Drivers;

a DSL DSP path comprising:

M DSL DSPs connected to the at least one upstream data link; and

M High Frequency Digitizers in communication with said M DSL DSPs and with said M:N analog multiplexer.

an OAM/EOC DSP path comprising:

P OAM/EOC DSPs; and

P Low Frequency Digitizers in communication with said P OAM/EOC DSPs and with said P:N analog multiplexer.

14. A system for oversubscribing a DSL modem, the system connected between at least one upstream data links and a plurality of N downstream data links, the system comprising:

an M:N digital multiplexer;

a P:N digital multiplexer;

N High Frequency Digitizers in communication with said M:N digital multiplexer and said P:N digital multiplexer;

N 2to4 Hybrids with Line Drivers in communication with said N High Frequency Digitizers;

N Isolation Circuitry connected to the N downstream data links and in communication with said N 2to4 Hybrids with Line Drivers;

a DSL DSP path comprising M DSL DSPs connected to the at least one upstream data link and in communication with said M:N digital multiplexer; and

an OAM/EOC DSP path comprising P OAM/EOC DSPs in communication with said P:N digital multiplexer.

15. A system for oversubscribing a DSL modem, the system connected between at least one upstream data links and a plurality of N downstream data links, the system comprising:

a Time Division Multiplexed Switch;

N High Frequency Digitizers in communication with said Time Division Multiplexed Switch;

N 2to4 Hybrids with Line Drivers in communication with said N High Frequency Digitizers;

N Isolation Circuitry connected to the N downstream data links and in communication with said N 2to4 Hybrids with Line Drivers;

a DSL DSP path comprising M DSL DSPs in communication with said Time Division Multiplexed Switch and connected to the at least one upstream data link; and

an OAM/EOC DSP path comprising P OAM/EOC DSPs in communication with said Time Division Multiplexed Switch.

16. The invention of claim 9, 11, 12, 13, 14, or 15 wherein the N downstream data links comprise POTS lines.

17. The invention of claim 9, 11, 12, 13, 14, or 15 wherein the at least one upstream data link comprises at least one of the following: a POTS line, optical fiber, a twisted pair conductor, the Public Switched Telephone Network, a T1 connection, a T3 connection, an ISDN connection, coaxial cable, an SHDSL link, an ADSL link, a VDSL link, an HDSL link, a V.90 link, and an OCn link.

18. The invention of claim 9, 11, 12, 13, 14, or 15 wherein M+P=N, and wherein P is at least 1.

19. In a system comprising a plurality of Customer Premise Equipment devices, a method for oversubscribing a DSL modem, the method comprising:

(a) according to the priority and order of a request from each Customer Premise Equipment device, connecting each Customer Premise Equipment device to a DSL Modem or an OAM/EOC Modem;

(b) for each Customer Premise Equipment device, if connected to a DSL Modem, transferring user traffic data, otherwise if connected to an OAM/EOC Modem, transferring synchronization data;

(c) for each Customer Premise Equipment device connected to a DSL Modem, determining if a Time-Out or a No-More-Data condition exists; and

(d) if a Time-Out or No-More-Data condition exists as determined in (c) repeating steps (a)-(d), otherwise repeating steps (b)-(d).